(No Model.) 2 Sheets—Sheet 1.

J. MILLS & C. W. ZIMMERMAN.

LOG TURNER.

No. 448,662. Patented Mar. 24, 1891.

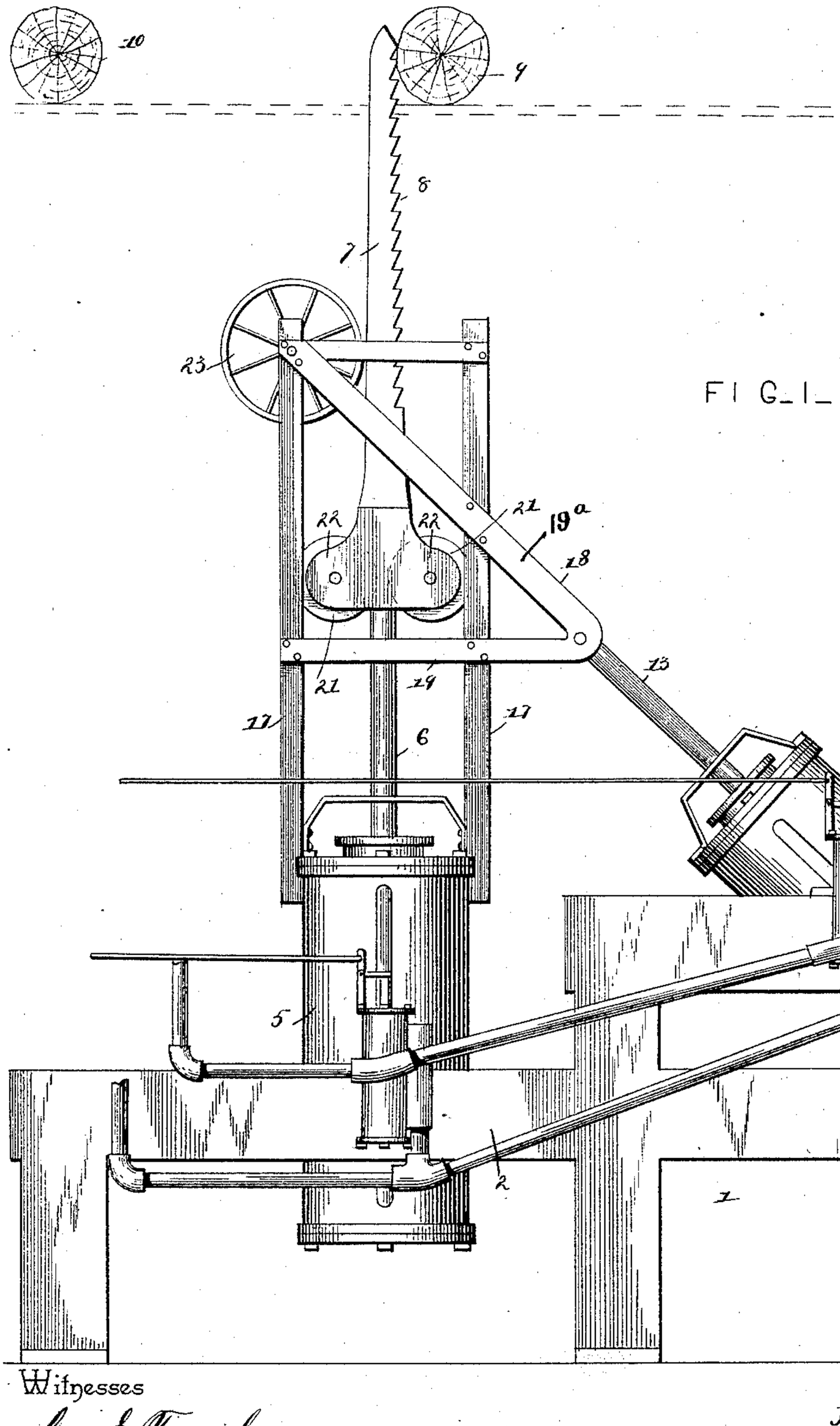

FIG. 1.

Witnesses
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F. C. Riley

Inventors
John Mills
Cyrus W. Zimmerman

By their Attorneys,
C. A. Snow & Co.

(No Model.)

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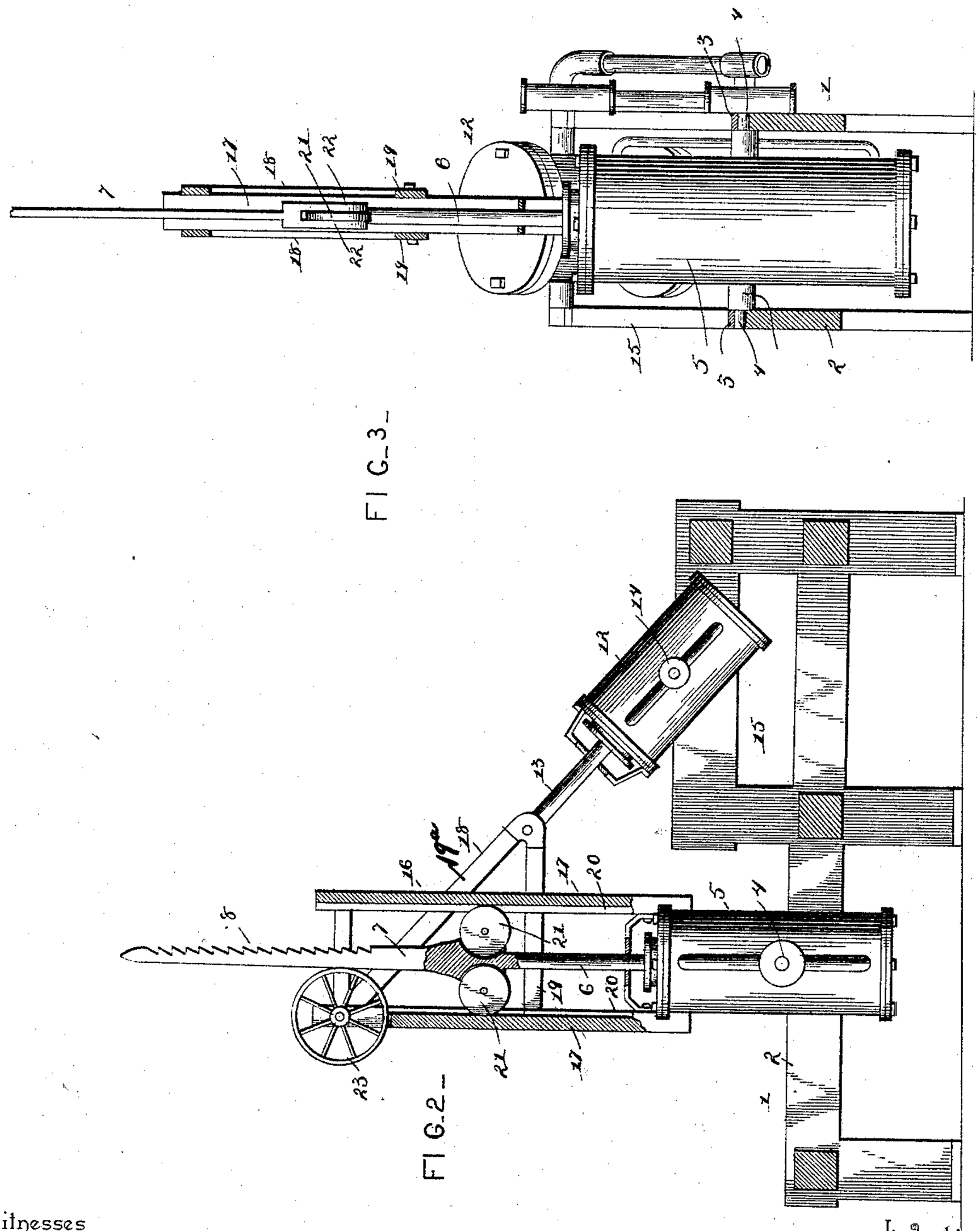

FIG. 3.

FIG. 2.

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UNITED STATES PATENT OFFICE.

JOHN MILLS AND CYRUS W. ZIMMERMAN, OF BREWTON, ALABAMA.

LOG-TURNER.

SPECIFICATION forming part of Letters Patent No. 448,662, dated March 24, 1891.

Application filed September 3, 1890. Serial No. 363,855. (No model.)

To all whom it may concern:

Be it known that we, JOHN MILLS and CYRUS W. ZIMMERMAN, citizens of the United States, residing at Brewton, in the county of Escambia and State of Alabama, have invented a new and useful Log-Turner, of which the following is a specification.

The invention relates to improvements in log canters and turners.

The object of the present invention is to simplify and improve the construction of log turners and canters and to strengthen the stock or cant-bar and prevent breakage of the same at the point of attachment to the piston.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

In the drawings, Figure 1 is a side elevation of a log turner and canter constructed in accordance with this invention and shown applied in operative position beneath a deck, the course of the cant bar or stock being illustrated by dotted lines. Fig. 2 is a transverse sectional view. Fig. 3 is a longitudinal sectional view.

Referring to the accompanying drawings, 1 designates a frame composed of sides 2, connected by cross-pieces and provided with bearings 3, in which are journaled trunnions 4, which are centrally arranged on opposite sides of an oscillating cylinder 5, the piston 6 of which carries a cant bar or stock 7, provided along one of its sides with a series of shouldered projections or teeth 8, adapted to engage the log 9, and the said cylinder 5 is adapted to turn on its trunnions to allow an oscillatory movement of the cant bar or stock 7 when the latter is moving a log along the deck and carrying it to the carriage of a sawmill. Steam or other fluid is directed below the piston-head of the cylinder 5 to elevate the cant bar or stock 7 and bring it into engagement with a log on the deck, and the cylinder is then in a slanting position, and steam is then forced above the piston of a cylinder 12, which is connected with the other cylinder 5, and by a return-stroke of the piston 13 the upper end of the cant bar or stock is caused to move along the deck and carry a log to the point 9. The cylinder 12 is provided with trunnions 14, similar to those of the cylinder 5, and the cylinder 12 is mounted in a raised portion 15 of the frame and is arranged above the bearings 3 of the cylinder 5. The cant bar or stock 7 is adapted to be raised and lowered and moved longitudinally to turn a log.

The cylinder 5 has mounted upon it a frame 16, composed of parallel side bars 17 and angular braces 18, arranged upon opposite sides of the guide-bars and having their horizontal portions 19 connecting the guide-bars 17 a short distance above the cylinder and extending beyond the guide-bars in the direction of the cylinder 12 and having their inclined or slanting portions 19^a extending to the top of the frame and secured to one of the guide-bars. The guide-bars are provided in their inner opposed faces with grooves 20, in which are arranged rollers 21, which are mounted between ears 22, arranged at the lower end of the cant bar or stock and formed integral therewith and extending from opposite sides of the same, and provided with perforations through which pass pivots which journal the rollers between the ears, and the said rollers move vertically from the grooves 20 of the guide-bar, and the cant bar or stock and the piston 6 are braced at their point of attachment and are enabled to withstand the strain incident to their use.

In the operation of the machine the greatest strain is encountered at the point of attachment of the cant bar or stock, and the piston-rod at this point is most liable to breakage; but by arranging the frame above the cylinder and employing the rollers 21 the parts are braced at every point throughout their stroke and there is no danger of breakage. The guide-bars to which the upper ends of the slanting portion 19^a of the braces 18 are secured have journaled between them a bearing-wheel 23, which supports the cant bar or stock intermediate of the ends of the latter. The piston-rod 13 of the cylinder 12 has its outer ends connected to the same between the angles of the braces.

The cylinders 5 and 12 are provided with suitable steam and exhaust pipes and means for controlling the admission of the steam, and the latter can be admitted above and below the piston-heads, and the cylinders can

be operated either separately or simultaneously.

From the foregoing description and the accompanying drawings the construction, operation, and advantages of the invention will readily be understood.

What we claim is—

1. In a log canter and turner, the combination of the frame, the cylinder 5, provided with trunnions journaled in the frame, the cant bar or stock mounted upon the outer end of the piston of the cylinder 5 and forming an extension and continuation of the said piston, and the cylinder 12, arranged at an angle to the cylinder 5 and provided with trunnions journaled in the frame and having its piston-rod connected with the cylinder 5, substantially as described.

2. In a log canter and turner, the combination of the frame, the cylinder 5, having trunnions journaled in the frame, the frame 16, mounted on the cylinder 5 and having parallel guide-bars, the cant bar or stock secured to the end of the piston of the cylinder 5 and forming an extension or continuation of said piston and provided with rollers engaging the guide-bars, and the cylinder 12, arranged at an angle to the cylinder 5 and journaled in the main frame and having its piston-rod connected to the frame 16, substantially as described.

3. In a log canter and turner, the combination of the main frame, the cylinder 5, journaled in the frame, the frame 16, mounted upon the cylinder and composed of the parallel groove guide-bars and the angular braces connecting the guide-bar, the cant bar or stock secured to the end of the piston of the cylinder 5 and forming an extension or continuation of said piston and provided with ears 22, the rollers mounted between the ears and arranged in the grooves of the guide-bars, and the cylinder 12, arranged at an angle to the cylinder 5 and journaled in the frame and having its piston-rod connected to the frame 16, substantially as described.

4. In a log canter and turner, the combination of the main frame, the cylinder 5, journaled in the frame, the frame 16, mounted upon the cylinder 5, the cant-bar secured to the end of the piston of said cylinder, and the bearing-wheel 23, journaled in the frame and adapted to support the cant bar or stock, substantially as described.

5. In a log canter and turner, the combination of the main frame, the cylinder 5, journaled in the frame and having its piston-rod carrying the cant bar or stock forming an extension or continuation of the piston, and the cylinder 12, arranged at an angle to the cylinder 5 and journaled in the frame connected with and adapted to actuate the cylinder 5, substantially as described.

6. In a log canter and turner, the cylinder 5, pivoted as described, the frame mounted on the cylinder and movable therewith, the cant-bar mounted upon the piston-rod of the cylinder and guided within the frame and forming a continuation or extension of the piston, and the cylinder arranged at an angle to the cylinder 5 and having its piston-rod connected with the frame on the cylinder 5 to actuate the same, as set forth.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in presence of two witnesses.

JOHN MILLS.
CYRUS W. ZIMMERMAN.

Witnesses:
YOUNGS WRIGHT,
J. B. RANKIN.